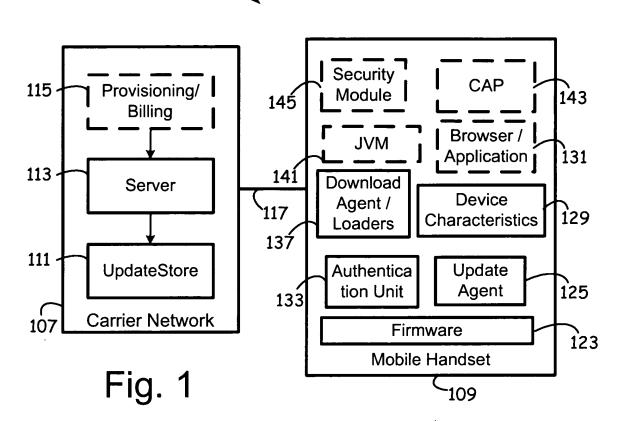TITLE: UPDATE NETWORK WITH SUPPORT FOR
LIFECYCLE MANAGEMENT OF ...
INVENTOR: CHIA
APPLICATION NO.: UNASSIGNED,
CONF. NO.   ; DOCKET NO. 14326US02
ATTORNEY: CCW, PHONE: 312-775-8000

105

Fig. 1

TITLE: UPDATE NETWORK WITH SUPPORT FOR
LIFECYCLE MANAGEMENT OF ...
INVENTOR: CHIA
APPLICATION NO.: UNASSIGNED,
CONF. NO.   ; DOCKET NO. 14326US02
ATTORNEY: CCW, PHONE: 312-775-8000

205

215 — Provisioning/ Billing interface

Life-cycle Management System for Mobile Handsets — 209

213 — Server

Life-cycle Management System for Update Packages — 207

211 — UpdateStore

Carrier Network

Fig. 2

TITLE: UPDATE NETWORK WITH SUPPORT FOR
LIFECYCLE MANAGEMENT OF ...
INVENTOR: CHIA
APPLICATION NO.: UNASSIGNED,
CONF. NO.   ; DOCKET NO. 14326US02
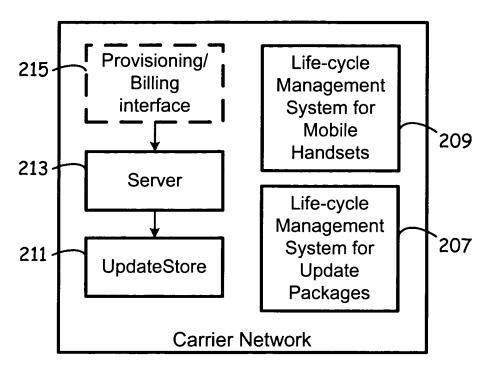ATTORNEY: CCW, PHONE: 312-775-8000

Fig. 3

Cell phone   Cell phone   Cell phone   Cell phone

Carrier
Network

Device
Server
Management
Interface

Device
Server
Management
Interface

Device
Server
Management
Interface

Network

SNMP
Console

Network

Web Management
Console

Management
Interface

Update Store

Database

Browser

Request

Controller
(Servlets)

View (JSP pages)

Response

Model
(JavaBeans)

JavaBean

JavaBean

JavaBean

JavaBean

JavaBean

Fig. 4

TITLE: UPDATE NETWORK WITH SUPPORT FOR
LIFECYCLE MANAGEMENT OF ...
INVENTOR: CHIA
APPLICATION NO.: UNASSIGNED,
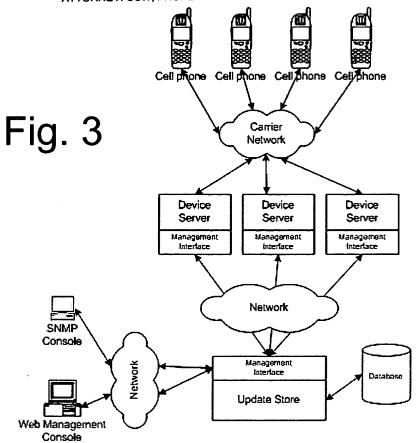CONF. NO.   ; DOCKET NO. 14326US02
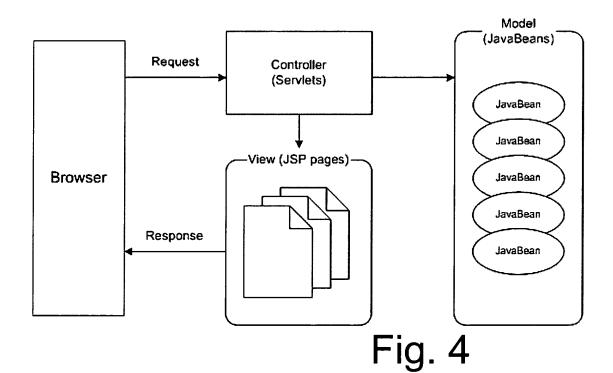ATTORNEY: CCW, PHONE: 312-775-8000

Fig. 5

loginHint.
html

login.html

body.ht
ml

adminAc
cts.html

delAdmin
.html

addAdmin
n.html

editAdmi
n.html

addAdmi
n.html

addRole.
html

delRole.h
tml

editRole.
html

viewAlar
ms.html

viewLog.
html

exportLo
g.html

logout.ht
ml

updPkgE
xplorer.ht
ml

addCarri
er.html

delCarrie
r.html

addPhon
e.html

addMfg.h
tml

delUpdP
kg.html

editCarri
er.html

addUpdP
kg.html

delMfg.ht
ml

repUpdP
kg.html

editMfg.h
tml

searchUp
dPkg.htm

viewUpd
Pkg.html

sysAdmi
n.html

provDvc
Svr.html

onDvcSr
v.html

offDvcSr
v.html

confDvcS
vr.html

onUpdSt
ore.html

offUpdSt
ore.html

confMan
u.html

confTime
Zone.htm

licenseK
ey.html

TITLE: UPDATE NETWORK WITH SUPPORT FOR
LIFECYCLE MANAGEMENT OF ...
INVENTOR: CHIA
APPLICATION NO.: UNASSIGNED,
CONF. NO.   ; DOCKET NO. 14326US02
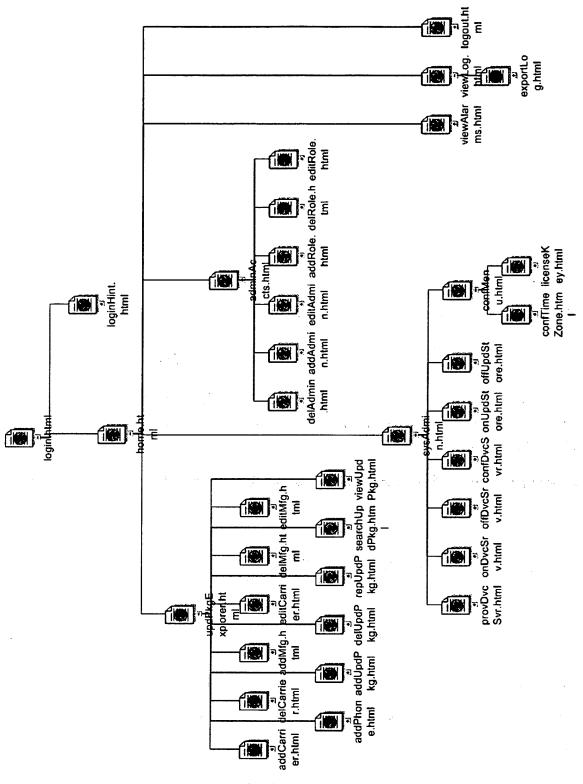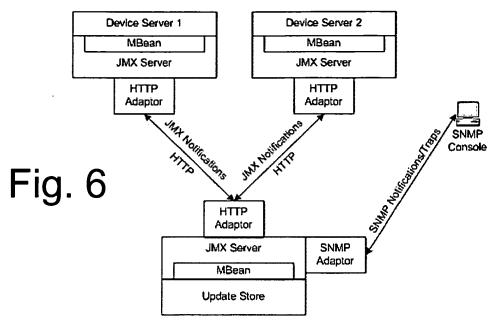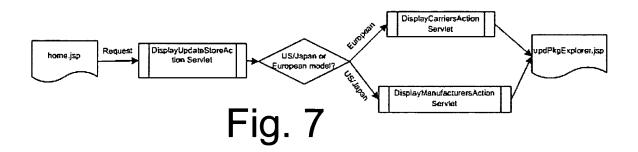ATTORNEY: CCW, PHONE: 312-775-8000

Fig. 6

Device Server 1
- MBean
- JMX Server

Device Server 2
- MBean
- JMX Server

HTTP Adaptor

HTTP Adaptor

SNMP Console

JMX Notifications / HTTP

JMX Notifications / HTTP

SNMP Notifications/Traps

HTTP Adaptor

JMX Server
- MBean

SNMP Adaptor

Update Store

Fig. 7

home.jsp → Request → DisplayUpdateStoreAction Servlet → US/Japan or European model?

European → DisplayCarriersAction Servlet → updPkgExplorer.jsp

US/Japan → DisplayManufacturersAction Servlet → updPkgExplorer.jsp

Fig. 8

addCarrier.jsp → Request → AddCarrierAction Servlet

AddCarrierAction Servlet:
- Validate Request Data
- Check access permissions
- Create Carrier object
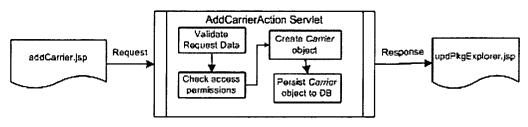- Persist Carrier object to DB

Response → updPkgExplorer.jsp

TITLE: UPDATE NETWORK WITH SUPPORT FOR
LIFECYCLE MANAGEMENT OF ...
INVENTOR: CHIA
APPLICATION NO.: UNASSIGNED,
CONF. NO.   ; DOCKET NO. 14326US02
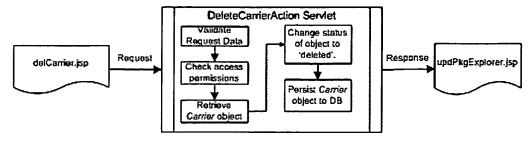ATTORNEY: CCW, PHONE: 312-775-8000

DeleteCarrierAction Servlet

delCarrier.jsp →(Request)→ [Validate Request Data → Check access permissions → Retrieve Carrier object → Change status of object to 'deleted'. → Persist Carrier object to DB] →(Response)→ updPkgExplorer.jsp

Fig. 9

EditCarrierAction Servlet

editCarrier.jsp →(Request)→ [Validate Request Data → Check access permissions → Retrieve Carrier object → Update parameters of object. → Persist Carrier object to DB] →(Response)→ viewCarrier.jsp

Fig. 10

AddManufacturerAction Servlet

addManufacturer.jsp →(Request)→ [Validate Request Data → Check access permissions → Create Manufacturer object → Persist Manufacturer object to DB] →(Response)→ updPkgExplorer.jsp

Fig. 11

TITLE: UPDATE NETWORK WITH SUPPORT FOR
LIFECYCLE MANAGEMENT OF ...
INVENTOR: CHIA
APPLICATION NO.: UNASSIGNED,
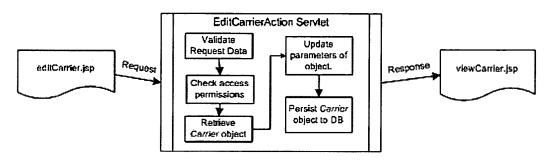CONF. NO.   ; DOCKET NO. 14326US02
ATTORNEY: CCW, PHONE: 312-775-8000

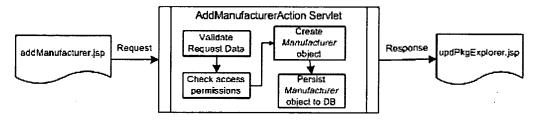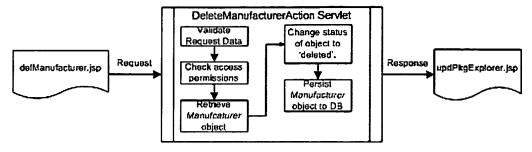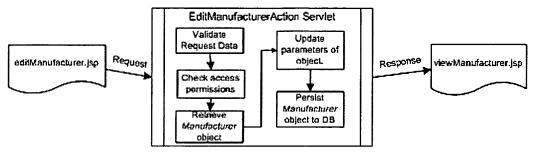**DeleteManufacturerAction Servlet**

delManufacturer.jsp → Request → [Validate Request Data → Check access permissions → Retrieve Manufacturer object] → [Change status of object to 'deleted'. → Persist Manufacturer object to DB] → Response → updPkgExplorer.jsp

Fig. 12

EditManufacturerAction Servlet

editManufacturer.jsp → Request → [Validate Request Data → Check access permissions → Retrieve Manufacturer object] → [Update parameters of objectL → Persist Manufacturer object to DB] → Response → viewManufacturer.jsp

Fig. 13

AddPhoneAction Servlet

addPhone.jsp → Request → [Validate Request Data → Check access permissions] → [Create Phone object → Persist Phone object to DB] → Response → updPkgExplorer.jsp

Fig. 14

DeletePhoneAction Servlet

delPhone.jsp → Request → [Validate Request Data → Check access permissions → Retrieve Phone object] → [Change status of object to 'deleted'. → Persist Phone object to DB] → Response → updPkgExplorer.jsp

Fig. 15

TITLE: UPDATE NETWORK WITH SUPPORT FOR
LIFECYCLE MANAGEMENT OF ...
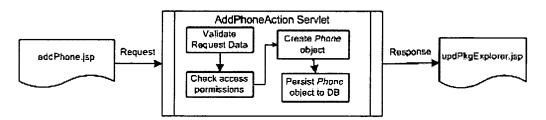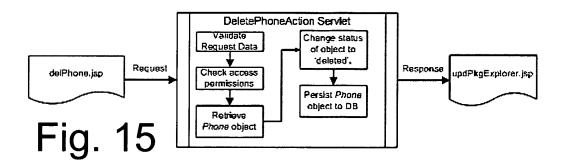INVENTOR: CHIA
APPLICATION NO.: UNASSIGNED,
CONF. NO.   ; DOCKET NO. 14326US02
ATTORNEY: CCW, PHONE: 312-775-8000

EditPhoneAction Servlet

editPhone.jsp → *Request* →

- Validate Request Data
- Check access permissions
- Retrieve *Phone* object
- Update parameters of object.
- Persist *Phone* object to DB

→ *Response* → viewPhone.jsp

Fig. 16

AddUpdatePackageAction Servlet

addUpdatePackage.jsp → *Request* →

- Validate and parse Multipart MIME Data
- Check access permissions
- Instantiate new UpdatePackage object. (verification done at instantiation.)
- Persist *UpdatePackage* object to DB

→ *Response* → viewUpdatePackage.jsp

Fig. 17

DeleteUpdatePackageAction Servlet

delUpdatePackage.jsp → Request →

- Check access permissions
- Retrieve the *UpdatePackage* object from DB.
- Execute the delete method which will move the update package into the history table.

→ Response → updPkgExplorer.jsp

Fig. 18

searchUpdatePackageAction Servlet

srchUpdatePackage.jsp → Request →

- Validate search criteria.
- Retrieve all *UpdatePackage* objects matching search criteria.

→ Response → srchResults.jsp

Fig. 19

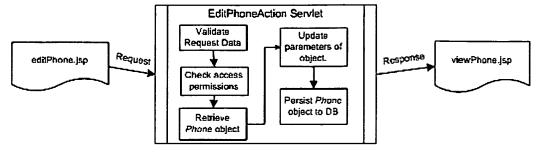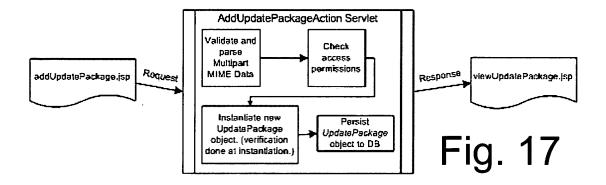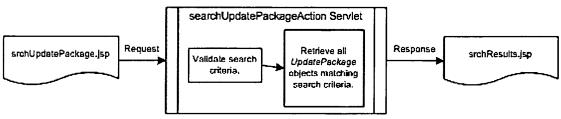TITLE: UPDATE NETWORK WITH SUPPORT FOR
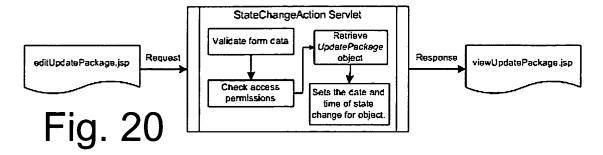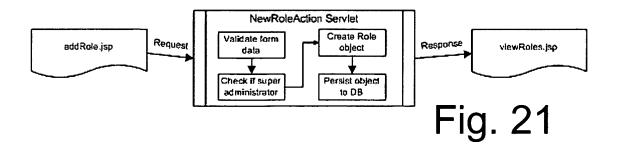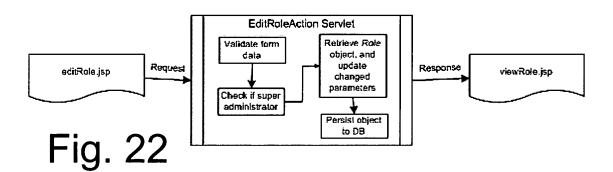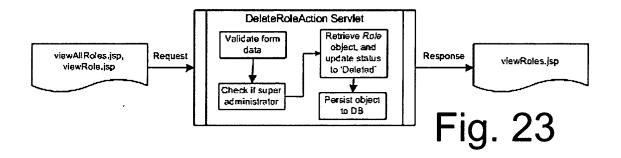LIFECYCLE MANAGEMENT OF ...
INVENTOR: CHIA
APPLICATION NO.: UNASSIGNED,
CONF. NO.   ; DOCKET NO. 14326US02
ATTORNEY: CCW, PHONE: 312-775-8000

StateChangeAction Servlet

editUpdatePackage.jsp → Request →

- Validate form data
- Check access permissions
- Retrieve *UpdatePackage* object
- Sets the date and time of state change for object.

→ Response → viewUpdatePackage.jsp

Fig. 20

NewRoleAction Servlet

addRole.jsp → Request →

- Validate form data
- Check if super administrator
- Create Role object
- Persist object to DB

→ Response → viewRoles.jsp

Fig. 21

EditRoleAction Servlet

editRole.jsp → Request →

- Validate form data
- Check if super administrator
- Retrieve *Role* object, and update changed parameters
- Persist object to DB

→ Response → viewRole.jsp

Fig. 22

DeleteRoleAction Servlet

viewAllRoles.jsp, viewRole.jsp → Request →

- Validate form data
- Check if super administrator
- Retrieve *Role* object, and update status to 'Deleted'
- Persist object to DB

→ Response → viewRoles.jsp

Fig. 23

NewAdministratorAction Servlet

addAdministrator.jsp → Request →

- Validate Request Data
- Check if super administrator
- Create Administrator object
- Persist Administrator object to DB

→ Response → viewAdministrators.jsp

Fig. 24

DeleteAdministratorAction Servlet

viewAllAdministrators.jsp, viewAdministrator.jsp → Request →

- Validate form data
- Check if super administrator
- Retrieve Administrator object, and update status to 'Deleted'
- Persist object to DB

→ Response → viewAdministrators.jsp

Fig. 25

EditAdministratorAction Servlet

editAdministrator.jsp → Request →

- Validate form data
- Check if super administrator
- Retrieve Administrator object, and update changed parameters
- Persist object to DB

→ Response → viewAdministrator.jsp

Fig. 26

DisplayServersAction servlet

sysAdmin.jsp → Request →

- Retrieve all DeviceServer and UpdateStore objects that are provisioned.
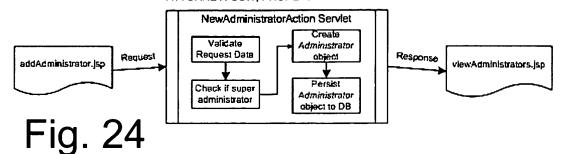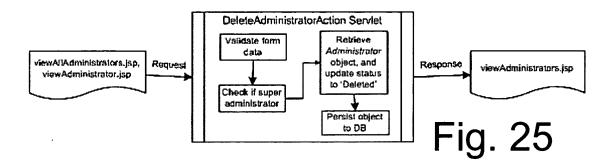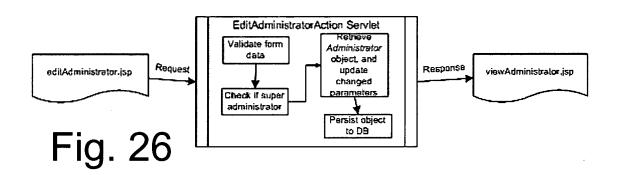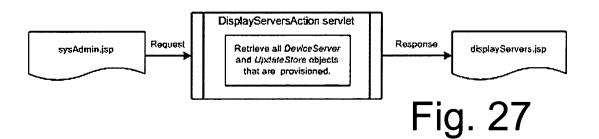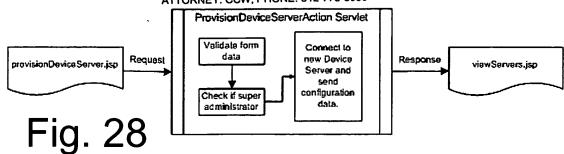
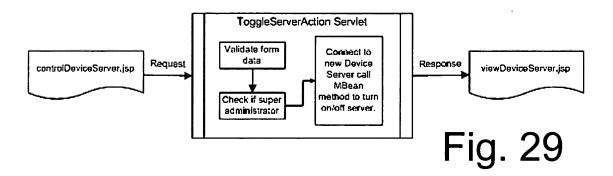→ Response → displayServers.jsp

Fig. 27

TITLE: UPDATE NETWORK WITH SUPPORT
FOR LIFECYCLE MANAGEMENT OF ...
INVENTOR: CHIA
APPLICATION NO.: UNASSIGNED,
CONF. NO.   ; DOCKET NO. 14326US02
ATTORNEY: CCW, PHONE: 312-775-8000

ProvisionDeviceServerAction Servlet

provisionDeviceServer.jsp → Request → [Validate form data → Check if super administrator] → [Connect to new Device Server and send configuration data.] → Response → viewServers.jsp

Fig. 28

ToggleServerAction Servlet

controlDeviceServer.jsp → Request → [Validate form data → Check if super administrator] → [Connect to new Device Server call MBean method to turn on/off server.] → Response → viewDeviceServer.jsp

Fig. 29

ConfigureDeviceServerAction Servlet

configureDeviceServer.jsp → Request → [Validate form data → Check if super administrator] → [Connect to new Device Server call MBean method to configure the server.] → Response → viewDeviceServer.jsp

Fig. 30

ToggleServerAction Servlet

controlUpdateStore.jsp → Request → [Validate form data → Check if super administrator] → [Connect to Update Store and call MBean method to turn on/off server.] → Response → viewUpdateStore.jsp
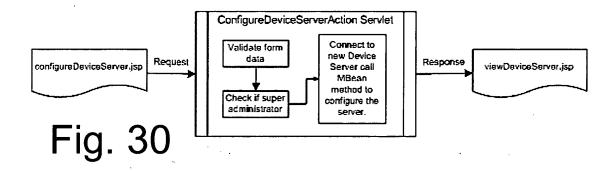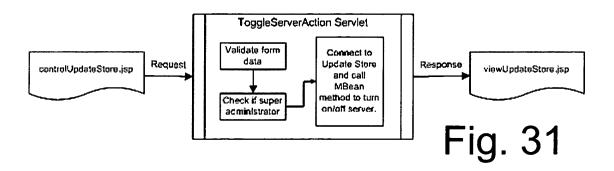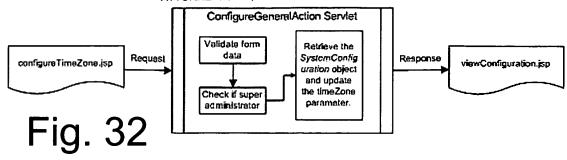
Fig. 31

TITLE: UPDATE NETWORK WITH SUPPORT
FOR LIFECYCLE MANAGEMENT OF ...
INVENTOR: CHIA
APPLICATION NO.: UNASSIGNED,
CONF. NO.   ; DOCKET NO. 14326US02
ATTORNEY: CCW, PHONE: 312-775-8000

ConfigureGeneralAction Servlet

configureTimeZone.jsp → Request →

- Validate form data
- Check if super administrator
- Retrieve the *SystemConfig*uration object and update the timeZone parameter.

→ Response → viewConfiguration.jsp

Fig. 32

DisplayAlarmsAction Servlet

home.jsp → Request →

- Validate form data
- Retrieve *AlarmsLog* object
- Retrieve all *Alarm* objects with specified status.

→ Response → viewAlarms.jsp

Fig. 33

ChangeAlarmStatusAction Servlet

viewAlarms.jsp → Request →

- Validate form data
- Retrieve target *Alarms* object
- Change status of each *Alarm* object.
- Persist objects to DB.

→ Response → viewAlarms.jsp

Fig. 34

DisplayActivityLogAction Servlet

home.jsp → Request →

- Validate form data
- Retrieve *Activity* objects
- Sort objects according to specified parameter

→ Response → viewActivityLog.jsp

Fig. 35

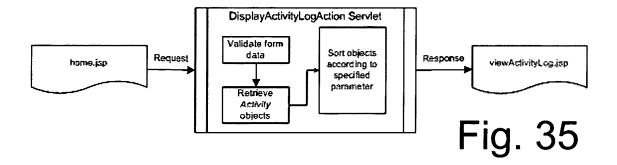TITLE: UPDATE NETWORK WITH SUPPORT
FOR LIFECYCLE MANAGEMENT OF ...
INVENTOR: CHIA
APPLICATION NO.: UNASSIGNED,
CONF. NO.   ; DOCKET NO. 14326US02
ATTORNEY: CCW, PHONE: 312-775-8000

ExportActivityLogAction Servlet

exportActivityLog.jsp → Request → [Validate form data | Retrieve *Activity* objects | Sort objects according to specified parameter | Construct xml file.] → Response → Log.xml

Fig. 36

LicenseKeyAction Servlet

licenseKey.jsp → Request → [Validate form data | Create/ Retrieve *LicenseKey* object | Change license key value, compute new limits. | Persist object to DB.] → Response → licenseKey.jsp

Fig. 37